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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/734,088	12/11/2003	Gregory L. Sundberg	279.646US1	7977
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SCHWEGMAN, LUNDBERG & WOESSNER, P.A. P.O. BOX 2938 MINNEAPOLIS, MN 55402				
EXAMINER				
LAVERT, NICOLE F				
ART UNIT		PAPER NUMBER		
3762				
NOTIFICATION DATE		DELIVERY MODE		
12/28/2009		ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

uspto@slwip.com  
request@slwip.com

### Office Action Summary

**Application No.**

10/734,088

**Applicant(s)**

SUNDBERG, GREGORY L.

**Examiner**

NICOLE F. LAVERT

**Art Unit**

3762

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 06 November 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-3, 5-7, 21, 23-25, 43-49, 51-53 and 55-60 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5-7, 21, 23-25, 43-49, 51-53 and 55-60 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 October 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☒ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 8/31/05
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(c), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(c) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 6 November 2009 has been entered.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-3, 5-7, 23-26, 43, 51-53 and 55-56 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, line 2, "with material defining an interior lumen..." is vague. It is unclear what "with" is referring to. Is this referring to the lead, lead body, or surface? or is this an extra element?

In claim 51, "positioned by a filler..." is vague and it is unclear if the filler is being positively recited, functional recited or is just the material. In addition "positioned by a filler disposed in the lead lumen with the filler" is vague and unclear how it is in reference to itself.

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. **Claims 1-3, 5-7, 23-24, 43-47, 51-52 & 55-60** are rejected under 35 U.S.C. 102(b) as being anticipated by Cross et al. (US 5,935,159).

Cross et al. discloses an apparatus an implantable lead comprising (e.g., Fig 1, 10) a tubular lead body (e.g., Fig 2, 10) defining an interior lumen extending through said lead body (e.g., Fig 2, 100) so as to further define a hollow between an inner body surface and a material defining said interior lumen of the lead body; at least one electrode and at least one conductor [e.g., (Fig 1, 18 & 20) & (Fig 3, 104-110)] and at least one filler disposed in the hollow (e.g., Fig 2 & 3, 102), the at least one filler including one or more compression features (e.g., elements 180-186 which enable the at least one filler to compress or otherwise move with the lead body [e.g., (col 2, ln 33-66) & (Fig 2, 180-186)]). Note that the disclosed elongated lead body contains an outer insulative tube that defines an inner, cylindrically shape in which the disclosed core member extends through, providing the claimed inner body surface and material defining an interior lumen. The Examiner is interpreting the disclose core member within the outer insulative tube as the claimed inner body surface defining a hollow which a filler is disposed within (e.g., Fig 3, 100 & 102). Note that the Examiner is interpreting the disclosed core member (e.g., element 102) comprising c-shaped, radially extending portions (e.g., elements 180-186) as being the at least one filler including one or more compression features (e.g., Fig 2).

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. **Claim 21** is rejected under 35 U.S.C. 103(a) as being unpatentable over Cross et al. (US 5,935,159) and one of ordinary skill in the art.

Cross et al. discloses the claimed invention having an apparatus and an implantable medical lead including at least one filler except wherein said filler has a greater flexibility than the flexibility of a tubular lead body. However, Cross et al. does teach that it is known to utilize an invention relating to medical electrical leads comprising an outer, insulative tube and core extended through the disclosed outer tube, in which the Examiner is interpreting the core member as the claimed filler. Cross et al. teaches that the core may be extruded from a different plastic than the outer tube, such as being fabricated of polyurethane [e.g., (col 2, ln 33-66), (col 3, ln 10-50) & (Fig 3, 100 & 102)]. Note that it would have been well known to one of ordinary skill in the art to use a highly, more flexible polyurethane plastic, such as ETFE or PTFE, in order to construct the greater flexible filler as instantly claimed (e.g., col 3, ln 10-24). Therefore, it would have been obvious to one of ordinary skill at the time the invention was made to modify the apparatus and implantable lead as taught by Cross et al. with a filler having a greater flexibility than the flexibility of a tubular lead body as is instantly claimed since it is known in the art to that a filler having a greater flexibility than the flexibility of a tubular lead body is used to provide the predictable results pertaining to providing desired mechanical characteristics of a

lead body in regards to the migration of the conductors through insulation due to repeated flexing of the lead body (e.g., col 3, ln 10-50).

5. **Claim 25** is rejected under 35 U.S.C. 103(a) as being unpatentable over Cross et al. (US 5,935,159) and one of ordinary skill in the art.

Cross et al. discloses the claimed invention having an apparatus and an implantable medical lead including at least one conductor except wherein said conductor includes insulation of the group including PTFE, ETFE and polyurethane. Cross et al. teaches that it is known to utilize an invention relating to medical leads comprising of multiple coiled conductors surrounded by an outer insulative sheath [e.g., (col 2, ln 33-66)-(col 3, ln 1-9) & (Fig 3, 104-110 & 112-118)]. Note that it is well known to those of ordinary skill in the art that the disclosed outer insulative sheath may be fabricated from insulated plastics such as the claimed materials. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the apparatus and implantable medical lead as taught by Cross et al. with the use of at least one conductor including insulation of the group including PTFE, ETFE and polyurethane as instantly claimed since it was known in the art that a conductor including insulation of the group including PTFE, ETFE and polyurethane is used to provide the predictable results pertaining to providing an overall diameter for the insulated conductors so that electrical stimulus which travels through the multiple conductors is effectively applied [e.g., (col 2, ln 33-66)-(col 3, ln 1-9) & (Fig 3, 104-110 & 112-118)].

6. **Claims 49-50 & 53-54** are rejected under 35 U.S.C. 103(a) as being unpatentable over Cross et al. (US 5,935,159) and one of ordinary skill in the art.

Cross et al. discloses the claimed invention having an apparatus and an implantable medical lead including at least one filler comprising recesses except wherein said apparatus and implantable medical lead further comprise a second filler disposed in a lead lumen wherein the second filler defines a plurality of recesses disposed along a portion of the second filler adjacent a coiled conductor. Cross et al. teaches that it is known to use an invention relating to medical leads further including a lead comprising an outer insulative tube body with a core member consisting of four radially extending portions disposed within the disclosed outer insulative tube, in which the core member has multiple grooves that the conductors lay within (e.g., Fig 2 & 3, 100, 102, 180-186, 190-196 & 104-110). Note that it is well known to those of ordinary skill in the art to consider to divide the disclosed extending portions into two groups to form two separate core members disposed adjacent to one another, (i.e. Fig 2, 186/184 & 180/182) therefore providing a first and second filler as is instantly claimed (e.g., Fig 2, 102 & 180-186). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the apparatus and implantable medical lead as taught by Cross et al. with the use of a second filler disposed in a lead lumen wherein the second filler defines a plurality of recesses disposed along a portion of the second filler adjacent a coiled conductor as is instantly claimed since it was known in the art that a second filler disposed in a lead lumen defining a plurality of recesses is used to provide the predictable results pertaining to multiple circular cross-sections in which allows for insulated conductors having an outer diameter corresponding to the maximum width of the grooves (i.e. recesses) to be snapped into the grooves (e.g., col 2, ln 33-51).

7. **Claims 26 & 48** are rejected under 35 U.S.C. 103(a) as being unpatentable over Cross et al. (US 5,935,159) in view of Dahl et al. (US 5,366,496) and one of ordinary skill in the art. Cross et al. discloses the claimed invention having an apparatus and an implantable medical device including at least one conductor except wherein said implantable lead further comprises at least one coil conductor with an outer insulation surface contacting an outer insulation surface of a cabled conductor in which the cable conductor is disposed around the coiled conductor. Dahl et al. teaches that it is known to utilize a body implantable tissue stimulation device including an elongate, flexible electrically conductive lead further comprising a shunt cable conductor with a dielectric sheath surrounding a conductive core in which also includes a dielectric coating [e.g., (col 2, ln 43-49), (col 8, ln 18-27), (col 9, 36-51-64) & (Fig 6, 194, 200, 198 & 196)]. Note that it is well known in the art that the disclosed conductive core may be in the form of a coiled conductor as is instantly claimed (e.g., Fig 6, 198). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the apparatus and implantable medical lead as taught by Cross et al. with the use of the shunt cable conductor surrounding a conductive core as taught by Dahl et al. since such a modification would provide the an apparatus and an implantable medical device including at least one conductor with at least one coil conductor with an outer insulation surface contacting an outer insulation surface of a cabled conductor in which the cable conductor is disposed around the coiled conductor for providing the predictable results pertaining to providing a highly conductive and fatigue-resisting conductor assembly in which provides parallel electrically conductive paths for increased electrode conductivity (Dahl, col 3, ln 29-32 & 51-64).



***Response to Arguments***

8. Applicant's arguments filed 6 November 2009 have been fully considered but they are not persuasive. The Applicant argues that the primary reference, Cross et al., fails to anticipate the claimed invention since the Cross et al. reference does not describe "...material defining an interior lumen extending through the tubular lead body such that the inner body surface and the material defining the interior lumen define a hollow between the inner body surface and the material defining the interior lumen..." since the disclosed lumen, which is created from the fillar, is not a separate material that defines said lumen. In addition, the Applicant also argues that the Cross et al. reference does not disclose "...a least one fillar disposed within the hollow...including one or more compression features which enable the at least one fillar to compress or otherwise move the lead body..." The Examiner disagrees with the above arguments and further points out that based on the broadest interpretation of the claims, the current claim language does not call for the material defining an interior lumen and an inner body surface to be separate from each other, therefore the disclosed lead body (e.g., element 10) comprising an inner core member (e.g., element 102) having an outer insulative tube further defining a lumen(s) provides tubular lead body including an inner body surface with material defining an interior lumen extending through the tubular body such that inner body surface and the material defining the interior lumen define a hollow between the inner body surface and the material defining the interior lumen as is instantly claimed [e.g., (col 2, ln 34-56) & (Fig 2)]. In addition, the Examiner further notes that the disclosed c-shaped, radially extending portions (e.g., elements 180-186) which extend longitudinally along the length of the core member (e.g., element 102) so as to provide a simplified mechanism that is assembled with the core and

conductors and is further slid into the tubular lead body, therefore the disclosed grooves are capable of moving with the lead body as is instantly claimed.

9. Applicant's arguments, filed 6 November 2009, with respect to the 112, 2<sup>nd</sup> paragraphs have been fully considered and are persuasive and are withdrawn.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to NICOLE F. LAVERT whose telephone number is (571)270-5040. The examiner can normally be reached on M-F 7:30-5:00p.m. (alt. fridays).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Angela Sykes can be reached on 571-272-4955. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/George R Evanisko/  
Primary Examiner, Art Unit 3762

Nicole Lavert

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